



SEMINARIUM  
MATEMATYKA DYSKRETNA

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**INFINITE GRAPHS  
WHOSE METRIC DIMENSIONS ARE TWO**

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Let  $G = (V, E)$  be a connected graph and  $S$  be a subset of  $V$ . We say that  $S$  resolves  $G$  if every vertex of  $G$  is uniquely determined by its vector of distances with respect to the ordered set  $S$ . The metric dimension of  $G$  is then the minimum cardinality of a resolving set.

Giving some examples, we guarantee the possibility of achieving finite dimensions for infinite graphs.

Taking idea from a characterization for two dimensional finite graphs, we discuss the problem of characterizing those infinite graphs whose metric dimensions are two.

Finally we propose some problems concerning finiteness of dimension of an infinite graph.